

# Abordaje retrosigmoideo

El [abordaje retrosigmoide](#) permite una exposición y control suficiente de todas las estructuras neurovasculares del [ángulo pontocerebeloso](#).

## Indicaciones

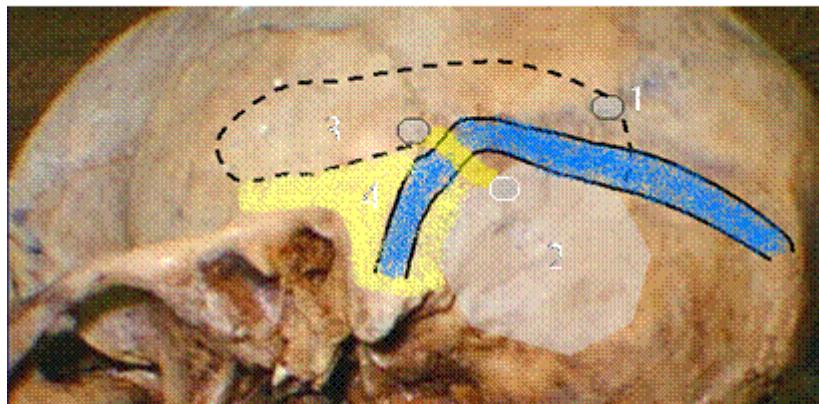
[Schwannomas vestibulares](#), [trigeminales](#), [quistes epidermoides](#), [meningiomas de ángulopontocerebeloso](#). También su extensión a la región petroclival, pero sin inserción en la misma, pueden ser intervenidos por medio del abordaje retrosigmoideo.

La combinación de este abordaje tradicional con una variedad de petrosectomia posterior, abordaje presigmoideo, permite la combinación de corredores a la base posterior para alcanzar lesiones de una variada localización.

## Schwannoma del nervio vestibular

ver [Abordaje retrosigmoideo para el schwannoma del nervio vestibular](#)

## Transpetrosos Combinados



### Leyenda:

- 1 Trépanos (3)
- 2 Craniectomía Retrosigmoidea
- 3 Craneotomía Subtemporal
- 4 Petrosectomía Posterior

Fuente:<http://www.neuroc.sld.cu/papers/C-atranspetroso.htm>

## Bibliografía recomendada

1: Acerbi F, Broggi M, Gaini SM, Tschabitscher M. Microsurgical endoscopic-assisted retrosigmoid intradural suprameatal approach: anatomical considerations. J Neurosurg Sci. 2010 Jun;54(2):55-63. PubMed PMID: 21313956.

2: Barbara M, Attanasio G, Piccoli F, Filipo R. Vestibular neurectomy in the guinea-pig: a retrosigmoid

approach. Acta Otolaryngol. 1999 Mar;119(2):171-3. PubMed PMID: 10320070.

3: Baroncini M, Thines L, Reynolds N, Schapira S, Vincent C, Lejeune JP. Retrosigmoid approach for meningiomas of the cerebellopontine angle: results of surgery and place of additional treatments. Acta Neurochir (Wien). 2011 Oct;153(10):1931-40; discussion 1940. Epub 2011 Jul 29. PubMed PMID: 21800106.

4: Bayazit YA, Abaday A, Dogulu F, Göksu N. Complications of pediatric auditory brain stem implantation via retrosigmoid approach. ORL J Otorhinolaryngol Relat Spec. 2011;73(2):72-5. Epub 2011 Jan 27. PubMed PMID: 21273799.

5: Blevins NH, Jackler RK. Exposure of the lateral extremity of the internal auditory canal through the retrosigmoid approach: a radioanatomic study. Otolaryngol Head Neck Surg. 1994 Jul;111(1):81-90. PubMed PMID: 8028948.

6: Borucki L, Szyfter W, Leszczyńska M. [Microscopy and endoscopy of the cerebellopontine angle in the retrosigmoid approach]. Otolaryngol Pol. 2004;58(3):509-15. Polish. PubMed PMID: 15311595.

7: Bozbuga M, Boran BO, Sahinoglu K. Surface anatomy of the posterolateral cranium regarding the localization of the initial burr-hole for a retrosigmoid approach. Neurosurg Rev. 2006 Jan;29(1):61-3. Epub 2005 Oct 15. PubMed PMID: 16228239.

8: Bremond GA, Magnan J, Chays A. [Results of vestibular neurotomy by posterior retrosigmoid approach]. Rev Laryngol Otol Rhinol (Bord). 1988;109(1):75-8. French. PubMed PMID: 3375629.

9: Cai C, Li YX, Xi HJ, Song BN, Han DM. [Anatomical study of auditory brainstem implantation through retrosigmoid approach]. Zhonghua Yi Xue Za Zhi. 2009 May 26;89(20):1395-8. Chinese. PubMed PMID: 19671331.

10: Chanda A, Nanda A. Retrosigmoid intradural suprameatal approach: advantages and disadvantages from an anatomical perspective. Neurosurgery. 2006 Jul;59(1 Suppl 1):ONS1-6; discussion ONS1-6. PubMed PMID: 16888538.

11: Chang SW, Wu A, Gore P, Beres E, Porter RW, Preul MC, Spetzler RF, Bambakidis NC. Quantitative comparison of Kawase's approach versus the retrosigmoid approach: implications for tumors involving both middle and posterior fossae. Neurosurgery. 2009 Mar;64(3 Suppl):44-51; discussion 51-2. PubMed PMID: 19240572.

12: Charachon R. [The facial nerve and the retrosigmoid approach]. Rev Laryngol Otol Rhinol (Bord). 1998;119(3):155-7. French. PubMed PMID: 9770059.

13: Charalampakis S, Koutsimpelas D, Gouveris H, Mann W. Post-operative complications after removal of sporadic vestibular schwannoma via retrosigmoid-suboccipital approach: current diagnosis and management. Eur Arch Otorhinolaryngol. 2011 May;268(5):653-60. Epub 2011 Jan 11. Review. PubMed PMID: 21221618.

14: Chen LF, Yu XG, Bu B, Xu BN, Zhou DB. The retrosigmoid approach to petroclival meningioma surgery. J Clin Neurosci. 2011 Dec;18(12):1656-61. Epub 2011 Oct 19. PubMed PMID: 22015099.

15: Chen LH, Liu YS, Yuan XR, Fang JS, Ma JR, Xi J, Yang ZQ, Huo L. [Keyhole microsurgery for acoustic neurinomas through suboccipital retrosigmoid sinus approach]. Ai Zheng. 2002 Oct;21(10):1136-40. Chinese. PubMed PMID: 12508661.

- 16: Cric I, Zhao JC, Rosenblatt S, Wiet R, O'Shaughnessy B. Suboccipital retrosigmoid approach for removal of vestibular schwannomas: facial nerve function and hearing preservation. *Neurosurgery*. 2005 Mar;56(3):560-70; discussion 560-70. Review. PubMed PMID: 15730582.
- 17: Cohen NL. Retrosigmoid approach for acoustic tumor removal. 1992. *Neurosurg Clin N Am*. 2008 Apr;19(2):239-50, vi. PubMed PMID: 18534337.
- 18: Cohen NL. Retrosigmoid approach for acoustic tumor removal. *Otolaryngol Clin North Am*. 1992 Apr;25(2):295-310. Review. PubMed PMID: 1630830.
- 19: Colletti V, Fiorino F. Middle fossa versus retrosigmoid-transmeatal approach in vestibular schwannoma surgery: a prospective study. *Otol Neurotol*. 2003 Nov;24(6):927-34. PubMed PMID: 14600476.
- 20: Colletti V, Fiorino FG, Carner M, Giarbini N, Sacchetto L, Cumér G. The retrosigmoid approach for auditory brainstem implantation. *Am J Otol*. 2000 Nov;21(6):826-36. PubMed PMID: 11078071.
- 21: Colletti V, Fiorino FG, Carner M, Giarbini N, Sacchetto L, Cumér G. Advantages of the retrosigmoid approach in auditory brain stem implantation. *Skull Base Surg*. 2000;10(4):165-70. PubMed PMID: 17171142; PubMed Central PMCID: PMC1656867.
- 22: Colletti V, Sacchetto L, Giarbini N, Fiorino F, Carner M. Retrosigmoid approach for auditory brainstem implant. *J Laryngol Otol Suppl*. 2000;(27):37-40. PubMed PMID: 11211436.
- 23: Colletti V, Fiorino F, Mocella S, Carner M, Policante Z. "En-bloc" removal of small- to medium-sized acoustic neuromas with retrosigmoid-transmeatal approach. *Skull Base Surg*. 1997;7(1):31-8. PubMed PMID: 17171004; PubMed Central PMCID: PMC1656615.
- 24: da Silva EB Jr, Leal AG, Milano JB, da Silva LF Jr, Clemente RS, Ramina R. Image-guided surgical planning using anatomical landmarks in the retrosigmoid approach. *Acta Neurochir (Wien)*. 2010 May;152(5):905-10. Epub 2009 Nov 10. PubMed PMID: 19902141.
- 25: Day JD, Kellogg JX, Fukushima T, Giannotta SL. Microsurgical anatomy of the inner surface of the petrous bone: neuroradiological and morphometric analysis as an adjunct to the retrosigmoid transmeatal approach. *Neurosurgery*. 1994 Jun;34(6):1003-8. PubMed PMID: 8084384.
- 26: de Notaris M, Cavallo LM, Prats-Galino A, Esposito I, Benet A, Poblete J, Valente V, Gonzalez JB, Ferrer E, Cappabianca P. Endoscopic endonasal transclival approach and retrosigmoid approach to the clival and petroclival regions. *Neurosurgery*. 2009 Dec;65(6 Suppl):42-50; discussion 50-2. PubMed PMID: 19935001.
- 27: Decat M, Delvaux J, Deggouj N, Gersdorff M. The vestibular neurectomy by retrosigmoid approach: operative technique and results. *Acta Otorhinolaryngol Belg*. 1997;51(2):123-6. PubMed PMID: 9241380.
- 28: Della Pepa GM, Montano N, Lucantoni C, Alexandre AM, Papacci F, Meglio M. Craniotomy repair with the retrosigmoid approach: the impact on quality of life of meticulous reconstruction of anatomical layers. *Acta Neurochir (Wien)*. 2011 Nov;153(11):2255-8. Epub 2011 Jul 31. PubMed PMID: 21805283.
- 29: Ebersold MJ, Harner SG, Beatty CW, Harper CM Jr, Quast LM. Current results of the retrosigmoid approach to acoustic neurinoma. *J Neurosurg*. 1992 Jun;76(6):901-9. PubMed PMID: 1588422.

- 30: Ebner FH, Dimostheni A, Tatagiba MS, Roser F. Step-by-step education of the retrosigmoid approach leads to low approach-related morbidity through young residents. *Acta Neurochir (Wien)*. 2010 Jun;152(6):985-8; discussion 988. Epub 2010 Feb 25. PubMed PMID: 20182893.
- 31: Ebner FH, Koerbel A, Roser F, Hirt B, Tatagiba M. Microsurgical and endoscopic anatomy of the retrosigmoid intradural supravertebral approach to lesions extending from the posterior fossa to the central skull base. *Skull Base*. 2009 Sep;19(5):319-23. PubMed PMID: 20190941; PubMed Central PMCID: PMC2765698.
- 32: Ebner FH, Koerbel A, Kirschniak A, Roser F, Kaminsky J, Tatagiba M. Endoscope-assisted retrosigmoid intradural supravertebral approach to the middle fossa: anatomical and surgical considerations. *Eur J Surg Oncol*. 2007 Feb;33(1):109-13. Epub 2006 Nov 14. PubMed PMID: 17110074.
- 33: Elsmore AJ, Mendoza ND. The operative learning curve for vestibular schwannoma excision via the retrosigmoid approach. *Br J Neurosurg*. 2002 Oct;16(5):448-55. PubMed PMID: 12498487.
- 34: Erdogan E, Civelek E, Onal MB, Solmaz I, Kural C, Yakupoglu H. A new method of patient's head positioning in suboccipital retrosigmoid approach. *Neurol India*. 2009 Nov-Dec;57(6):777-9. PubMed PMID: 20139509.
- 35: Fujitsu K, Kitsuta Y, Takemoto Y, Matsunaga S, Tateishi K. Combined pre- and retrosigmoid approach for petroclival meningiomas with the aid of a rotatable head frame: peri-auricular three-quarter twist-rotation approach: technical note. *Skull Base*. 2004 Nov;14(4):209-15; discussion 215. PubMed PMID: 16145607; PubMed Central PMCID: PMC1151694.
- 36: Fukuhara T, Silverman DA, Hughes GB, Kinney SE, Newman CW, Sandridge SA, Lee JH. Vestibular nerve sectioning for intractable vertigo: efficacy of simplified retrosigmoid approach. *Otol Neurotol*. 2002 Jan;23(1):67-72. PubMed PMID: 11773850.
- 37: Goksu N, Bayazit YA, Bayramoglu I, Isik B, Yilmaz M, Kurtipek O, Uygur K. Surgical exposure in retrosigmoid approach: do we need cerebellar retractors? *Surg Neurol*. 2006 Jun;65(6):631-4; discussion 634. PubMed PMID: 16720194.
- 38: Gupta T, Gupta SK. Anatomical delineation of a safety zone for drilling the internal acoustic meatus during surgery for vestibular schwannoma by retrosigmoid suboccipital approach. *Clin Anat*. 2009 Oct;22(7):794-9. PubMed PMID: 19718768.
- 39: Haberkamp TJ, Meyer GA, Fox M. Surgical exposure of the fundus of the internal auditory canal: anatomic limits of the middle fossa versus the retrosigmoid transcanal approach. *Laryngoscope*. 1998 Aug;108(8 Pt 1):1190-4. PubMed PMID: 9707242.
- 40: Jackson CG, McGrew BM, Forest JA, Hampf CR, Glasscock ME 3rd, Brandes JL, Hanson MB. Comparison of postoperative headache after retrosigmoid approach: vestibular nerve section versus vestibular schwannoma resection. *Am J Otol*. 2000 May;21(3):412-6. PubMed PMID: 10821557.
- 41: Jung S, Kang SS, Kim TS, Kim HJ, Jeong SK, Kim SC, Lee JK, Kim JH, Kim SH, Lee JH. Current surgical results of retrosigmoid approach in extralarge vestibular schwannomas. *Surg Neurol*. 2000 Apr;53(4):370-7; discussion 377-8. PubMed PMID: 10825523.
- 42: Kim JP, Chung JC, Chang WS, Choi JY, Chang JW. Surgical complications of pediatric auditory brain stem implantation in patients with narrow internal auditory canal following retrosigmoid approach. *Childs Nerv Syst*. 2012 Jan 11. [Epub ahead of print] PubMed PMID: 22234544.

- 43: Koerbel A, Kirschniak A, Ebner FH, Tatagiba M, Gharabaghi A. The retrosigmoid intradural suprameatal approach to posterior cavernous sinus: microsurgical anatomy. *Eur J Surg Oncol.* 2009 Apr;35(4):368-72. Epub 2008 Apr 2. PubMed PMID: 18378110.
- 44: Koval J, Molcan M, Bowdler AD, Sterkers JM. Retrosigmoid transmeatal approach: an anatomic study of an approach used for preservation of hearing in acoustic neuroma surgery and vestibular neurotomy. *Skull Base Surg.* 1993;3(1):16-21. PubMed PMID: 17170885; PubMed Central PMCID: PMC1656412.
- 45: Lassaletta L, Fontes L, Melcon E, Sarria MJ, Gavilan J. Hearing preservation with the retrosigmoid approach for vestibular schwannoma: myth or reality? *Otolaryngol Head Neck Surg.* 2003 Oct;129(4):397-401. Review. PubMed PMID: 14574295.
- 46: Lassaletta L, Fontes L, Melcón E, Sarriá MJ, Gavilán J. [Is hearing preservation feasible with the retrosigmoid approach?]. *Acta Otorrinolaringol Esp.* 2002 Apr;53(4):247-51. Spanish. PubMed PMID: 12185901.
- 47: Leonetti JP, Anderson DE, Newell DJ, Smith PG. Posterior internal auditory canal closure following the retrosigmoid approach to the cerebellopontine angle. *Am J Otol.* 1993 Jan;14(1):31-3. PubMed PMID: 8424473.
- 48: Li Z, Lan Q. Retrosigmoid keyhole approach to the posterior cranial fossa: an anatomical and clinical study. *Eur Surg Res.* 2010;44(1):56-63. Epub 2009 Dec 4. PubMed PMID: 19996599.
- 49: Liu B, Zhu X, Liang J, Yin M, Lu Q, Yuan H. [Improved retrosigmoid approach operation in the treatment of trigeminal neuralgia]. *Lin Chuang Er Bi Yan Hou Ke Za Zhi.* 2001 Sep;15(9):407-8. Chinese. PubMed PMID: 12541891.
- 50: Low WK. Enhancing hearing preservation in endoscopic-assisted excision of acoustic neuroma via the retrosigmoid approach. *J Laryngol Otol.* 1999 Nov;113(11):973-7. PubMed PMID: 10696373.
- 51: Low WK, Fenton JE, Fagan PA, Gibson WP. Racial considerations in acoustic neuroma removal with hearing preservation via the retrosigmoid approach. *Acta Otolaryngol.* 1995 Nov;115(6):783-6. PubMed PMID: 8749200.
- 52: Lü J, Wu H, Huang Q, Yang J, Li Y. [Application of the endoscope assisting in retrosigmoid approach vestibular schwannoma resection]. *Lin Chung Er Bi Yan Hou Tou Jing Wai Ke Za Zhi.* 2009 Jan;23(1):1-4. Chinese. PubMed PMID: 19441241.
- 53: Magliulo G, Muscatello M, Petti R, Marino G. [Meatotomy by the retrosigmoid approach to the cerebellopontile angle: an anatomo-surgical study]. *Acta Otorhinolaryngol Ital.* 1988 Sep-Oct;8(5):525-32. Italian. PubMed PMID: 3266704.
- 54: Magnan J, Barbieri M, Mora R, Murphy S, Meller R, Bruzzo M, Chays A. Retrosigmoid approach for small and medium-sized acoustic neuromas. *Otol Neurotol.* 2002 Mar;23(2):141-5. Review. PubMed PMID: 11875340.
- 55: Magnan J, Chays A, Caces F, Lepetre C, Cohen JM, Belus JF, Bruzzo M. [Contribution of endoscopy of the cerebellopontine angle by retrosigmoid approach. Neuroma and vasculo-nervous compression]. *Ann Otolaryngol Chir Cervicofac.* 1993;110(5):259-65. French. PubMed PMID: 8304698.
- 56: Magnan J, Bremond G, Chays A, Gignac D, Florence A. Vestibular neurotomy by retrosigmoid approach: technique, indications, and results. *Am J Otol.* 1991 Mar;12(2):101-4. PubMed PMID:

2053598.

- 57: Mamikoglu B, Esquivel CR, Wiet RJ. Comparison of facial nerve function results after translabyrinthine and retrosigmoid approach in medium-sized tumors. *Arch Otolaryngol Head Neck Surg.* 2003 Apr;129(4):429-31. PubMed PMID: 12707190.
- 58: Mattei TA, Ramina R. Critical remarks on the proposed "extended retrosigmoid approach". *Neurosurg Rev.* 2011 Oct;34(4):527-30. Epub 2011 Jun 30. PubMed PMID: 21717103.
- 59: Matula C, Diaz Day J, Czech T, Koos WT. The retrosigmoid approach to acoustic neurinomas: technical, strategic, and future concepts. *Acta Neurochir (Wien).* 1995;134(3-4):139-47. PubMed PMID: 8748773.
- 60: Mazzoni A, Calabrese V, Danesi G. A modified retrosigmoid approach for direct exposure of the fundus of the internal auditory canal for hearing preservation in acoustic neuroma surgery. *Am J Otol.* 2000 Jan;21(1):98-109. PubMed PMID: 10651442.
- 61: McKenna MJ, Nadol JB Jr, Ojemann RG, Halpin C. Vestibular neurectomy: retrosigmoid-intracanalicular versus retrolabyrinthine approach. *Am J Otol.* 1996 Mar;17(2):253-8. PubMed PMID: 8723957.
- 62: Millen SJ, Meyer G. Retrosigmoid intracanalicular vestibular nerve section: an alternative surgical approach for Menière's disease. *Am J Otol.* 1986 Sep;7(5):330-2. PubMed PMID: 3789117.
- 63: Miller RS, Pensak ML. An anatomic and radiologic evaluation of access to the lateral internal auditory canal via the retrosigmoid approach and description of an internal labyrinthectomy. *Otol Neurotol.* 2006 Aug;27(5):697-704. PubMed PMID: 16868518.
- 64: Miyazaki H, Deveze A, Magnan J. Neuro-otologic surgery through minimally invasive retrosigmoid approach: endoscope assisted microvascular decompression, vestibular neurotomy, and tumor removal. *Laryngoscope.* 2005 Sep;115(9):1612-7. PubMed PMID: 16148704.
- 65: Moffat DA, da Cruz MJ, Baguley DM, Beynon GJ, Hardy DG. Hearing preservation in solitary vestibular schwannoma surgery using the retrosigmoid approach. *Otolaryngol Head Neck Surg.* 1999 Dec;121(6):781-8. PubMed PMID: 10580238.
- 66: Mostafa BE, El Sharnoubi M, Youssef AM. The keyhole retrosigmoid approach to the cerebello-pontine angle: indications, technical modifications, and results. *Skull Base.* 2008 Nov;18(6):371-6. PubMed PMID: 19412406; PubMed Central PMCID: PMC2637069.
- 67: Ohue S, Fukushima T, Friedman AH, Kumon Y, Ohnishi T. Retrosigmoid suprafloccular transhorizontal fissure approach for resection of brainstem cavernous malformation. *Neurosurgery.* 2010 Jun;66(6 Suppl Operative):306-12; discussion 312-3. PubMed PMID: 20489521.
- 68: Ojemann RG. Retrosigmoid approach to acoustic neuroma (vestibular schwannoma). *Neurosurgery.* 2001 Mar;48(3):553-8. PubMed PMID: 11270545.
- 69: Parietti C, Bussienne JE, Knecht C, Beurton R, Simon C. [Vestibular neurotomy by a retrosigmoid approach: functional results. Evaluation through a triple clinical approach (otoneurologic, orthoptic and physical medicine)]. *Rev Laryngol Otol Rhinol (Bord).* 2000;121(3):203-8. French. PubMed PMID: 11109889.
- 70: Park CE, Park BJ, Lim YJ, Yeo SG. Functional outcomes in retrosigmoid approach microsurgery and

- gamma knife stereotactic radiosurgery in vestibular schwannoma. *Eur Arch Otorhinolaryngol.* 2011 Jul;268(7):955-9. Epub 2011 Apr 11. Review. PubMed PMID: 21479879.
- 71: Perez R, Ducati A, Garbossa D, Benech F, Fontanella MM, Canale A, Albera R. Retrosigmoid approach for vestibular neurectomy in Meniere's disease. *Acta Neurochir (Wien).* 2005 Apr;147(4):401-4; discussion 404. PubMed PMID: 15618995.
- 72: Pillai P, Sammet S, Ammirati M. Image-guided, endoscopic-assisted drilling and exposure of the whole length of the internal auditory canal and its fundus with preservation of the integrity of the labyrinth using a retrosigmoid approach: a laboratory investigation. *Neurosurgery.* 2009 Dec;65(6 Suppl):53-9; discussion 59. PubMed PMID: 19935002.
- 73: Quiñones-Hinojosa A, Chang EF, Lawton MT. The extended retrosigmoid approach: an alternative to radical cranial base approaches for posterior fossa lesions. *Neurosurgery.* 2006 Apr;58(4 Suppl 2):ONS-208-14; discussion ONS-214. PubMed PMID: 16582642.
- 74: Rabelo de Freitas M, Russo A, Sequino G, Piccirillo E, Sanna M. Analysis of Hearing Preservation and Facial Nerve Function for Patients Undergoing Vestibular Schwannoma Surgery: The Middle Cranial Fossa Approach versus the Retrosigmoid Approach - Personal Experience and Literature Review. *Audiol Neurotol.* 2011 Aug 9;17(2):71-81. [Epub ahead of print] PubMed PMID: 21829012.
- 75: Raza SM, Quinones-Hinojosa A. The extended retrosigmoid approach for neoplastic lesions in the posterior fossa: technique modification. *Neurosurg Rev.* 2011 Jan;34(1):123-9. Epub 2010 Sep 14. PubMed PMID: 20838839.
- 76: Ren M. [Retrosigmoid-internal auditory canal approach operation]. *Zhonghua Er Bi Yan Hou Ke Za Zhi.* 1993;28(6):331-3, 380. Chinese. PubMed PMID: 8031582.
- 77: Rhoton AL Jr. The cerebellopontine angle and posterior fossa cranial nerves by the retrosigmoid approach. *Neurosurgery.* 2000 Sep;47(3 Suppl):S93-129. PubMed PMID: 10983306.
- 78: Rivas JA, Guzmán JE. Combined vestibular neurectomy and endolymphatic sac shunt via the retrosigmoid approach in the treatment of Ménière's disease. *Ear Nose Throat J.* 2000 Aug;79(8):571-5. PubMed PMID: 10969464.
- 79: Rowed DW, Nedzelski JM. Hearing preservation in the removal of intracanalicular acoustic neuromas via the retrosigmoid approach. *J Neurosurg.* 1997 Mar;86(3):456-61. Review. PubMed PMID: 9046302.
- 80: Sameshima T, Fukushima T, McElveen JT Jr, Friedman AH. Critical assessment of operative approaches for hearing preservation in small acoustic neuroma surgery: retrosigmoid vs middle fossa approach. *Neurosurgery.* 2010 Sep;67(3):640-4; discussion 644-5. PubMed PMID: 20647969.
- 81: Samii M, Gerganov V, Samii A. Improved preservation of hearing and facial nerve function in vestibular schwannoma surgery via the retrosigmoid approach in a series of 200 patients. *J Neurosurg.* 2006 Oct;105(4):527-35. PubMed PMID: 17044553.
- 82: Samii M, Tatagiba M, Carvalho GA. Retrosigmoid intradural suprameatal approach to Meckel's cave and the middle fossa: surgical technique and outcome. *J Neurosurg.* 2000 Feb;92(2):235-41. PubMed PMID: 10659009.
- 83: Schaller B, Baumann A. Headache after removal of vestibular schwannoma via the retrosigmoid approach: a long-term follow-up-study. *Otolaryngol Head Neck Surg.* 2003 Mar;128(3):387-95.

PubMed PMID: 12646842.

84: Seoane E, Rhoton AL Jr. Suprameatal extension of the retrosigmoid approach: microsurgical anatomy. *Neurosurgery*. 1999 Mar;44(3):553-60. PubMed PMID: 10069592.

85: Shao KN, Tatagiba M, Samii M. Surgical management of high jugular bulb in acoustic neurinoma via retrosigmoid approach. *Neurosurgery*. 1993 Jan;32(1):32-6; discussion 36-7. PubMed PMID: 8421554.

86: Shelton C, Alavi S, Li JC, Hitselberger WE. Modified retrosigmoid approach: use for selected acoustic tumor removal. *Am J Otol*. 1995 Sep;16(5):664-8. PubMed PMID: 8588674.

87: Silverstein H, Nichols ML, Rosenberg S, Hoffer M, Norrell H. Combined retrolabyrinthine-retrosigmoid approach for improved exposure of the posterior fossa without cerebellar retraction. *Skull Base Surg*. 1995;5(3):177-80. PubMed PMID: 17170944; PubMed Central PMCID: PMC1656498.

88: Silverstein H, Norrell H, Smouha E, Jones R. Combined retrolab-retrosigmoid vestibular neurectomy. An evolution in approach. *Am J Otol*. 1989 May;10(3):166-9. PubMed PMID: 2787602.

89: Silverstein H, Norrell H, Smouha EE. Retrosigmoid-internal auditory canal approach vs. retrolabyrinthine approach for vestibular neurectomy. *Otolaryngol Head Neck Surg*. 1987 Sep;97(3):300-7. PubMed PMID: 3118312.

90: Smith MF, Lagger RL. Hearing conservation in acoustic neurilemmoma surgery via the retrosigmoid approach. *Otolaryngol Head Neck Surg*. 1984 Apr;92(2):168-75. PubMed PMID: 6425771.

91: Smith PG, Leonetti JP, Grubb RL. Management of cerebrospinal fluid otorhinorrhea complicating the retrosigmoid approach to the cerebellopontine angle. *Am J Otol*. 1990 May;11(3):178-80. PubMed PMID: 2343902.

92: Staeker H, Nadol JB Jr, Ojemann R, Ronner S, McKenna MJ. Hearing preservation in acoustic neuroma surgery: middle fossa versus retrosigmoid approach. *Am J Otol*. 2000 May;21(3):399-404. PubMed PMID: 10821555.

93: Sterkers JM, Sterkers O, Maudelonde C, Corlieu P. Preservation of hearing by the retrosigmoid approach in acoustic neuroma surgery. *Adv Otorhinolaryngol*. 1984;34:187-92. PubMed PMID: 6516952.

94: Symon L. Surgical management of high jugular bulb in acoustic neurinoma via retrosigmoid approach. *Neurosurgery*. 1993 Sep;33(3):533. PubMed PMID: 8413890.

95: Tan C, Brookes GB. [The endoscopic technique utilized in removal process of acoustic neuroma by retrosigmoid approach]. *Lin Chuang Er Bi Yan Hou Ke Za Zhi*. 2003 Jan;17(1):25-6. Chinese. PubMed PMID: 12725183.

96: Tan CQ, Brookes GB. [Endoscopic technique utilized into the selective vestibular neurotomy by retrosigmoid approach]. *Zhonghua Er Bi Yan Hou Ke Za Zhi*. 2003 Apr;38(2):111-4. Chinese. PubMed PMID: 12889108.

97: Teo MK, Eljamel MS. Role of craniotomy repair in reducing postoperative headaches after a retrosigmoid approach. *Neurosurgery*. 2010 Nov;67(5):1286-91; discussion 1291-2. PubMed PMID: 20871444.

- 98: Tringali S, Ferber-Viart C, Fuchsmann C, Buiret G, Zaouche S, Dubreuil C. Hearing preservation in retrosigmoid approach of small vestibular schwannomas: prognostic value of the degree of internal auditory canal filling. *Otol Neurotol.* 2010 Dec;31(9):1469-72. PubMed PMID: 21113987.
- 99: Vaneecloo FM, Jomin M, Ton Van J, Janssen B, Angot A, Vilette L. [Problem of the preservation of hearing in acoustic neuroma. Value of the mixed supra petrous and retrosigmoid approach]. *Ann Otolaryngol Chir Cervicofac.* 1989;106(1):5-11. French. PubMed PMID: 2719441.
- 100: Wait SD, Gazzeri R, Galarza M, Teo C. Simple, effective, supine positioning for the retrosigmoid approach. *Minim Invasive Neurosurg.* 2011 Aug;54(4):196-8. Epub 2011 Sep 15. PubMed PMID: 21922451.
- 101: Wang XW, Wen Z, Zhang TZ. [Clinical utility of EC glue in retrosigmoid approach surgery]. *Zhonghua Er Bi Yan Hou Tou Jing Wai Ke Za Zhi.* 2005 May;40(5):356. Chinese. PubMed PMID: 16229177.
- 102: Wang XW, Fu XJ, Dong SY. [The retrosigmoid approach surgery of trigeminal never]. *Lin Chuang Er Bi Yan Hou Ke Za Zhi.* 2000 Mar;14(3):116-7. Chinese. PubMed PMID: 12541412.
- 103: Xie N, Xu D. [Complications of cerebellopontine angle surgery by retrosigmoid approach]. *Lin Chuang Er Bi Yan Hou Ke Za Zhi.* 1999 Jan;13(1):20-2. Chinese. PubMed PMID: 12564035.
- 104: Xu W, Sun G, Chen X, Chen Q, Fang Q, Sun N, Zhang Y, Zhang J, Ren M. [Observation of cranial nerves in the cerebellopontine angle region by retrosigmoid approach]. *Lin Chung Er Bi Yan Hou Tou Jing Wai Ke Za Zhi.* 2009 May;23(10):454-5. Chinese. PubMed PMID: 19670628.
- 105: Yamakami I, Yoshinori H, Saeki N, Wada M, Oka N. Hearing preservation and intraoperative auditory brainstem response and cochlear nerve compound action potential monitoring in the removal of small acoustic neurinoma via the retrosigmoid approach. *J Neurol Neurosurg Psychiatry.* 2009 Feb;80(2):218-27. Epub 2008 Oct 31. PubMed PMID: 18977821.
- 106: Yamakami I, Uchino Y, Kobayashi E, Yamaura A, Oka N. Removal of large acoustic neurinomas (vestibular schwannomas) by the retrosigmoid approach with no mortality and minimal morbidity. *J Neurol Neurosurg Psychiatry.* 2004 Mar;75(3):453-8. PubMed PMID: 14966164; PubMed Central PMCID: PMC1738959.
- 107: Yamashima T, Lee JH, Tobias S, Kim CH, Chang JH, Kwon JT. Surgical procedure "simplified retrosigmoid approach" for C-P angle lesions. *J Clin Neurosci.* 2004 Feb;11(2):168-71. PubMed PMID: 14732378.
- 108: Yang J, Grayeli AB, Barylyak R, Elgarem H. Functional outcome of retrosigmoid approach in vestibular schwannoma surgery. *Acta Otolaryngol.* 2008 Aug;128(8):881-6. PubMed PMID: 18607969.
- 109: Zhang HZ, Lan Q. Design and microsurgical anatomy of the retrosigmoid-retrocondylar keyhole approach without occipital condyle removal. *Minim Invasive Neurosurg.* 2006 Feb;49(1):49-54. PubMed PMID: 16547883.
- 110: Zhang KW, Shun ZT. Microvascular decompression by the retrosigmoid approach for idiopathic hemifacial spasm: experience with 300 cases. *Ann Otol Rhinol Laryngol.* 1995 Aug;104(8):610-2. PubMed PMID: 7639469.
- 111: Zhang KW, Zhao YH, Shun ZT, Li P. Microvascular decompression by retrosigmoid approach for trigeminal neuralgia: experience in 200 patients. *Ann Otol Rhinol Laryngol.* 1990 Feb;99(2 Pt

1):129-30. PubMed PMID: 2301868.

112: Zhang X, Fei Z, Chen YJ, Fu LA, Zhang JN, Liu WP, He XS, Jiang XF. Facial nerve function after excision of large acoustic neuromas via the suboccipital retrosigmoid approach. *J Clin Neurosci*. 2005 May;12(4):405-8. PubMed PMID: 15925770.

113: Zhang X, Fei Z, Fu L. [Removal of large acoustic neuroma via suboccipito-retrosigmoid approach with microsurgical technique]. *Zhonghua Wai Ke Za Zhi*. 2001 Oct;39(10):782-5. Chinese. PubMed PMID: 16201195.

114: Zhao X, Wang Z, Ji Y, Wang C, Yu R, Ding X, Wei S. Long-term facial nerve function evaluation following surgery for large acoustic neuromas via retrosigmoid transmeatal approach. *Acta Neurochir (Wien)*. 2010 Oct;152(10):1647-52. Epub 2010 Jun 12. PubMed PMID: 20544362.

115: Zhu W, Mao Y, Zhou LF, Zhang R, Chen L. Combined subtemporal and retrosigmoid keyhole approach for extensive petroclival meningiomas surgery: report of experience with 7 cases. *Minim Invasive Neurosurg*. 2008 Apr;51(2):95-9. PubMed PMID: 18401822.

116: Zhu W, Mao Y, Zhou LF, Zhang R, Chen L. Combined subtemporal and retrosigmoid keyhole approach for extensive petroclival meningioma surgery: report of experience with 7 cases. *Minim Invasive Neurosurg*. 2007 Apr;50(2):106-10. PubMed PMID: 17674298.

117: Zhu X, Chen H, Qin Y, Lu Q, Liu P, Yuan H. [Glossopharyngeal neuromotomy by improved retrosigmoid approach]. *Lin Chuang Er Bi Yan Hou Ke Za Zhi*. 2002 Feb;16(2):74-5. Chinese. PubMed PMID: 15510634.

From:

<http://neurocirugiacontemporanea.com/> - **Neurocirugía Contemporánea ISSN  
1988-2661**



Permanent link:

[http://neurocirugiacontemporanea.com/doku.php?id=abordaje\\_retrosigmoideo](http://neurocirugiacontemporanea.com/doku.php?id=abordaje_retrosigmoideo)

Last update: **2019/09/26 22:30**